

FIELD INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES

FIT PROJECT

Site:	_____
ID #	IAD047303771
Break:	1.0
Other:	11-19-80

0759

TASK REPORT TO THE ENVIRONMENTAL PROTECTION AGENCY CONTRACT NO. 68-01-6056

PRELIMINARY ASSESSMENT AND SITE INSPECTION OF

COLLIS CORPORATION

TDD F-7-8010-4

NOVEMBER 19, 1980

Prepared by John Zirschky
Ken Snell

40214093



SUPERFUND RECORDS

ecology and environment, inc.

International Specialists in the Environmental Sciences

Introduction

During the week of September 29, 1980, Region VII EPA received a report of possible cyanide gas poisoning of workers at the Collis manufacturing plant in Clinton, Iowa. Workmen involved in the dredging of the sludge disposal pits at Collis noticed a strong ammonia smell in one of the pits and within two hours developed headaches and nausea. One of the workmen reported the incident to the Iowa Department of Environmental Quality (IDEQ) who, in turn, forwarded the complaint to EPA and the Iowa Department of Labor. FIT personnel were requested (TDD F-7-8010-4) to perform a preliminary assessment and site inspection of Collis Corporation to determine if the facility's waste management practices were adequate for the protection of the environment and public health. Therefore, on November 13, 1980, the Region VII Ecology and Environment FIT team conducted an inspection of Collis Corporation. Mr. Virgil Showerman, plant manager, and Mr. Nello Arterburn, plating supervisor, were interviewed during this inspection; after which, several samples were collected from Collis's waste treatment system. The results of this inspection are summarized in the following report.

Background

Collis Corporation, a subsidiary of Chamberlain Manufacturing Corporation, manufactures chrome-plated wire products, such as refrigerator trays. The facility operates in two eight-hour shifts and employs approximately 275 people. The raw materials used in this operation include sodium cyanide (60,000 lbs/yr), chromate (100,000 lbs/yr), hydrochloric acid (560,000 lbs/yr), sodium hydroxide (150,000 lbs/yr), zinc (168,000 lbs/yr) and nitric acid (1300 gal/yr). Process water for the manufacturing operation is provided by an 1800 foot well on the facility property. This well reportedly provides 250,000 to 300,000 gallons of water per day. Potable water from the employees is provided by the Clinton city water supply system. A sketch of the facility is provided in Figure I.

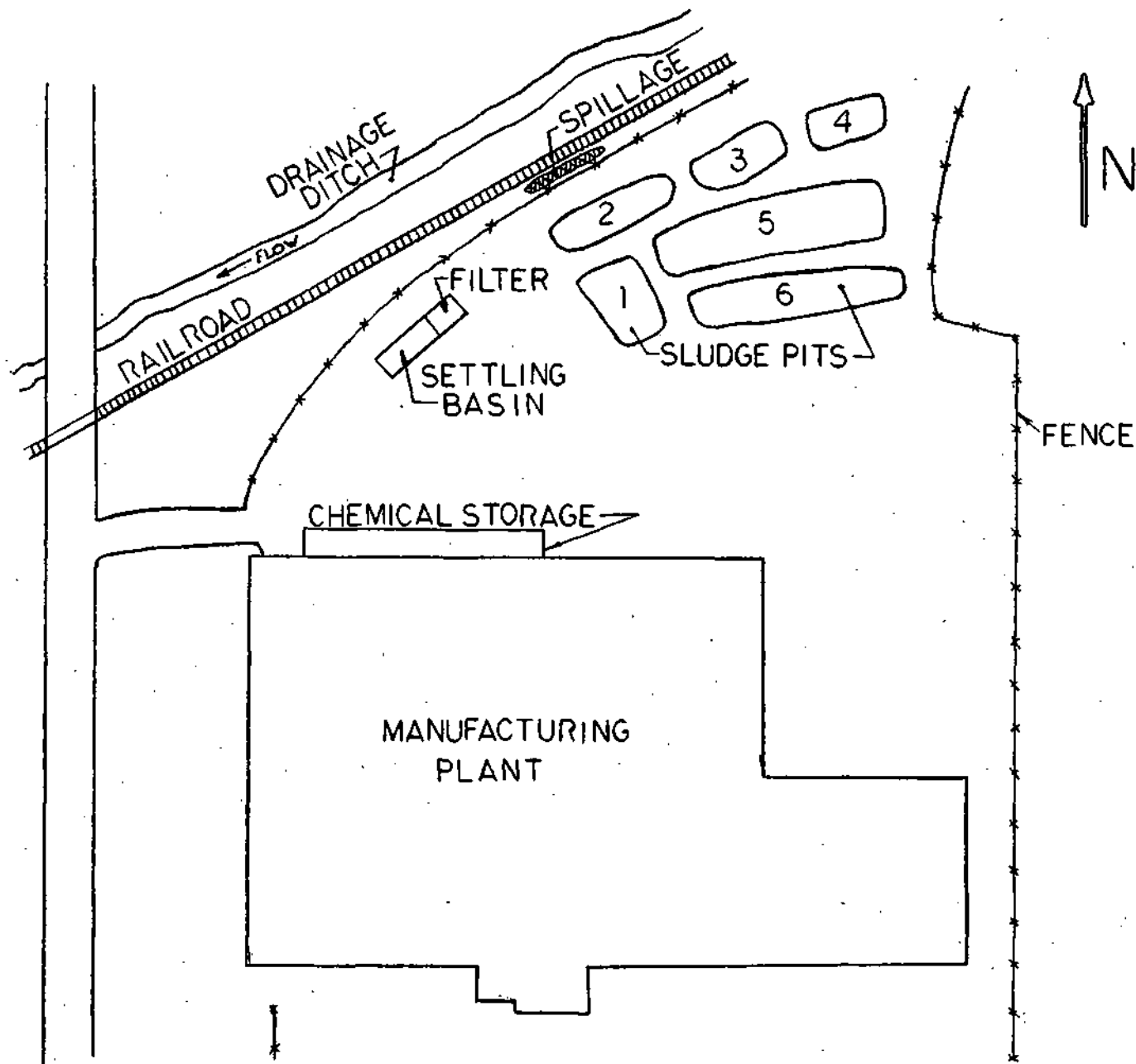


Figure 1. Sketch of Collis Manufacturing Corporation, Clinton, Iowa .

Waste Treatment Practices

The three major contaminants of the plant wastewater stream are chrome, cyanide and zinc. The chrome wastes are treated using sulfur dioxide chrome reduction followed by chrome precipitation. First, the hexavalent chromium from the plating operation is reduced to trivalent chromium using sulfur dioxide in an acidic environment. Then, lime is used to raise the pH to approximately 8.5 allowing the chrome to precipitate as chromium (III) hydroxide. The zinc also precipitates as a hydroxide during this step. A polymer is used to increase the precipitate settling rate.

The cyanide wastes are treated using a two-step alkaline chlorination process. Gaseous chlorine is used to oxidize the cyanide to cyanate. Then, the cyanate waste stream is mixed with the reduced chromium waste stream at which point lime is added to the combined wastewater stream. The alkaline pH causes the cyanide to decompose into carbon dioxide and nitrogen. The combined waste stream then enters a sedimentation basin where the precipitate settles out. The supernatant from the settling basin is filtered through a diatomaceous earth filter and then discharged to a drainage ditch located north of the plant. This drainage creek discharges into Mill Creek which in turn discharges into the Mississippi River. The settled sludge is dewatered using a filter press and placed in a dumpster for disposal at the Browning Ferris landfill near Rockford, Illinois. This sludge is produced at a rate of between 12 and 20 cubic yards per week and has a moisture content of 40 percent.

Between 1971 and 1980, the sludge was placed in six sludge disposal pits located on the facility property (Figure 1). During this nine year period, approximately 1000 cubic yards of sludge were placed in these pits. Since the latter part of September, Collis has been removing the sludge from these pits and hauling it to the Rockford Browning Ferris landfill.

Jedder's hauling company of Clinton, Iowa has been transporting the waste from Clinton to Rockford. This dredging operation appeared to be approximately 50 percent complete at the time of this inspection.

According to Mr. Showerman, these pits are approximately seven feet deep, and the tops of the pit embankments are roughly 3 to 4 feet above ground level. The surface aquifer is reportedly about 4 to 5 feet below the ground level; therefore, the bottoms of the pits are approximately 0 to 2 feet above the shallowest water table. This shallow groundwater elevation corresponds roughly with the surface elevation of the drainage ditch located north of the pits. Collis is located in an old riverbed, and the underlying soil is primarily sand and silt. Thus, it seems unlikely that the underlying soil would offer substantial protection against leachate migration from the sludge pits. Furthermore, a dark liquid was observed in the bottom of sludge pits number 1 and 2 (see Figure 1). According to Mr. Arterburn, this substance was a water soluble oil leached from metal shavings that were dumped approximately 50 yards south of the pits several years ago. This oil was used for cooling any metal parts fabricated on lathes. Mr. Arterburn stated that tests had been run on this oil which determined that it was not toxic. The company neglected to save these analytical results; and therefore, this information is unavailable. The migration of this oil proves, however, that the soil structure probably would not inhibit leachate migration. These shavings are currently placed in a dumpster and taken to landfill for disposal.

Past Regulatory Actions

An extensive background search of past regulatory actions against Collis was not performed, however, a number of recent investigative actions were reviewed. The most recent inspection activity conducted by IDEQ took place on November 12, 1980, the day before the FIT inspection. IDEQ received a report of a fish kill downstream from the Collis wastewater effluent discharge point.

Steve Hoambrecker of Region 6 IDEQ performed this inspection. During his inspection, Steve observed Collis pumping the supernatant from one of the sludge pits to the railroad tracks located north of the company property. During this pumping operation, sludge from the pit was accidentally sucked up by the pump and discharged to the railroad tracks. The approximate location of this spillage is indicated on Figure 1. The total volume of this spillage appeared to be approximately a third of a cubic yard. Mr. Showerman stated that he intended to have someone remove the spillage as soon as possible. Mr. Showerman also stated that the supernatant on this pond was only rainwater and that analytical tests had been performed on this water before pumping it out of the pits. Unfortunately, they again neglected to save the records of these test results.

On September 2, 1980, Bill Keffer observed sludge accumulations in the drainage creek approximately 100 feet downstream of the effluent discharge point from Collis. Steve Hoambrecker of IDEQ also observed sludge accumulations in this creek during an inspection on February 26, 1980. Effluent samples, runoff samples, and a sample of the sludge accumulation in the creek were collected. The results of these samples showed that Collis was violating its NPDES permit with respect to chromium. Also, the runoff from the facility property contained substantial chromium and other metal concentrations (12 to 140 ppm, chromium). Finally, the sludge in the creek was found to contain high levels of chrome (5500 ppm), zinc (2900 ppm) and cyanide (1800 ppm). Mr. Showerman stated that the drainage creek had been dredged approximately 1 year ago, so this sludge accumulation would be of a recent origin. A copy of Steve Hoambrecker's inspection report is attached to this report.

Sampling

A water sample was collected from the treatment plant effluent, and sludge samples were collected from the sludge dumpster and one disposal pit (number 3). The water sample (AN21C4) was collected from a copper tube in the filter house identified by Mr. Arterburn as being Collis's effluent sampling point. Three liters were collected for analysis of hexavalent chromium, pH, metals and cyanide. A one quart sludge sample (AN21C2) was collected from the sludge dumpster for analysis for hexavalent chromium, metals, and cyanide. A one quart sample (AN21C3) was also collected from sludge pit number 3 for analysis of hexavalent chromium, metals, and cyanide.

Cyanide sludge can decompose forming ammonia and cyanide gases. This decomposition is enhanced by acidic pH conditions; however, it can occur slowly at pH values greater than 7. The sample from the sludge pit was collected to indicate if cyanide degradation has occurred, while the sludge sample from the dumpster was collected to determine the applicability of RCRA regulations to current treatment plant sludge. A comparison between the two sludge sample analytical results should provide an indication if cyanide sludge decomposition has occurred, however, more than two samples would have to be collected for any such comparison to be statistically significant. Also, Collis will not be able to remove all of this sludge by November 19, 1980 when the RCRA regulations become effective. The sample results from the sludge pit sample will also be useful for determining the applicability of RCRA regulations to this waste. Furthermore, the concentration of cyanide in the sludges could be used to determine the potential threat to health offered by the sludge should it decompose and release cyanide gas.

Based upon the ammonia smell noticed by the workers when dredging the first sludge pit, it seems likely that cyanide sludge decomposition has occurred in this pit. It is not clear why the odor was noticed in only one of the pits; however, the oil leachate in this pit may have had some effect on this sludge. When Mr. Showerman was questioned whether an ammonia smell had ever been observed during the excavation of the pits. He replied that he was not aware of any such odor. Mr. Arterburn, however, confirmed that an ammonia smell was noticed during the excavation of pit number 1. He also stated that he had consulted a chemist and was informed that the sludge could decompose releasing ammonia. Mr. Arterburn was not questioned as to whether or not he had informed Mr. Showerman of this possible sludge decomposition.

Future Treatment System Operation

Once the sludge pits are dredged, Collis is planning to convert the pits to sedimentation lagoons or basins. Instead of using lime to precipitate the metals and cyanide, sodium hydroxide will be used. This alteration should substantially reduce the volume of sludge produced by Collis. The precipitate formed using sodium hydroxide is smaller and more difficult to settle than that produced using lime. The lagoons will be used to increase the total system detention time to enhance settling. The effluent from the lagoon system will then pass through the existing sedimentation basin and through the filter prior to discharge. At this time, Mr. Showerman stated that they had no plans to install any type of liner beneath these lagoons, so leachate migration could be a substantial problem, especially since primarily water and not sludge will be placed in these lagoons.

Summary and Conclusions

On November 13, 1980 the Field Investigation Team of Ecology and Environment conducted an inspection of and collected samples from Collis Corporation in Clinton, Iowa. An effluent sample and two sludge samples were collected for analysis of hexavalent chrome, metals, and cyanide. Past regulatory involvement with Collis indicates that this company has violated its discharge standards and has been generally lax on environmental matters. The drainage creek adjacent to Collis has been significantly contaminated by runoff, sludge overflows, and effluent discharges from Collis. The creek adjacent to Collis at one time reportedly contained fish, however, the creek appears now to be devoid of fish. The treatment system, if properly operated, could eliminate most of these problems. Leachate from beneath the sludge pits, however, could also contaminate this creek.

Based upon the past investigative findings, Collis merits close attention. Samples of the creek sediment should be taken to determine if the creek needs to be dredged again. The effluent from the treatment plant should also be carefully monitored and compared with Collis's records to determine the validity of Collis's analytical results. The sludge pits should be lined to prevent any leachate from entering the drainage creek. Once these pits are converted to sedimentation lagoons, the leachate problem could be expected to increase. Shallow wells will also have to be placed around the lagoon/pits to detect leachate migration. Finally, a containment system for runoff or spills at Collis should be constructed to prevent surface runoff from contaminating the drainage creek.

Attachments

Preliminary Assessment Form
Site Inspection Form
Surface Impoundment Inspection Form
IDEQ Inspection Report
Field Sheets
Chain of Custody Record



POTENTIAL HAZARDOUS WASTE SITE
IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION VII
SITE NUMBER (to be assigned by HQ)

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (Preliminary Assessment). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME Collis Corporation		B. STREET (or other identifier) 2005 South 19th Street	
C. CITY Clinton	D. STATE Ia	E. ZIP CODE 52732	F. COUNTY NAME Clinton
G. OWNER/OPERATOR (if known) 1. NAME Collis Corporation		2. TELEPHONE NUMBER	
H. TYPE OF OWNERSHIP <input type="checkbox"/> 1. FEDERAL <input type="checkbox"/> 2. STATE <input type="checkbox"/> 3. COUNTY <input type="checkbox"/> 4. MUNICIPAL <input checked="" type="checkbox"/> 5. PRIVATE <input type="checkbox"/> 6. UNKNOWN			
I. SITE DESCRIPTION Collis Corporation makes chrome plated wire trays and has six chrome/cyanide sludge pits on their property.			
J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.)			K. DATE IDENTIFIED (mo., day, & yr.)
L. PRINCIPAL STATE CONTACT NAME Steve Hoambrecker/Region 6 IDEQ Washington, Ia			2. TELEPHONE NUMBER (b) (6)

II. PRELIMINARY ASSESSMENT (complete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM <input type="checkbox"/> 1. HIGH <input checked="" type="checkbox"/> 2. MEDIUM <input type="checkbox"/> 3. LOW <input type="checkbox"/> 4. NONE <input type="checkbox"/> 5. UNKNOWN		
B. RECOMMENDATION <input type="checkbox"/> 1. NO ACTION NEEDED (no hazard) <input checked="" type="checkbox"/> 2. IMMEDIATE SITE INSPECTION NEEDED a. TENTATIVELY SCHEDULED FOR: b. WILL BE PERFORMED BY: <input checked="" type="checkbox"/> 3. SITE INSPECTION NEEDED a. TENTATIVELY SCHEDULED FOR: b. WILL BE PERFORMED BY: <input type="checkbox"/> 4. SITE INSPECTION NEEDED (low priority)		
C. PREPARER INFORMATION 1. NAME John Zirschky 2. TELEPHONE NUMBER (b) (6) 3. DATE (mo., day, & yr.) 11-19-80		

III. SITE INFORMATION

A. SITE STATUS <input checked="" type="checkbox"/> 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.) <input type="checkbox"/> 2. INACTIVE (Those sites which no longer receive wastes.) <input type="checkbox"/> 3. OTHER (specify):	
B. IS GENERATOR ON SITE? <input type="checkbox"/> 1. NO <input checked="" type="checkbox"/> 2. YES (specify generator's four-digit SIC Code): 3499, 3481, 3471	
C. AREA OF SITE (in acres) 10 acres, estimated	D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES 1. LATITUDE (deg.-min.-sec.) 2. LONGITUDE (deg.-min.-sec.)
E. ARE THERE BUILDINGS ON THE SITE? <input type="checkbox"/> 1. NO <input checked="" type="checkbox"/> 2. YES (specify): treatment plant, manufacturing building	

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

<input checked="" type="checkbox"/> A. TRANSPORTER	<input checked="" type="checkbox"/> B. STORER	<input checked="" type="checkbox"/> C. TREATER	<input checked="" type="checkbox"/> D. DISPOSER
1. RAIL	1. PILE	1. FILTRATION	1. LANDFILL
2. SHIP	2. SURFACE IMPOUNDMENT	2. INCINERATION	2. LANDFARM
3. BARGE	3. DRUMS	3. VOLUME REDUCTION	3. OPEN DUMP
4. TRUCK	4. TANK, ABOVE GROUND	4. RECYCLING/RECOVERY	<input checked="" type="checkbox"/> 4. SURFACE IMPOUNDMENT
5. PIPELINE	5. TANK, BELOW GROUND	<input checked="" type="checkbox"/> 5. CHEM./PHYS. TREATMENT	5. MIDNIGHT DUMPING
6. OTHER (specify):	6. OTHER (specify):	6. BIOLOGICAL TREATMENT	6. INCINERATION
		7. WASTE OIL REPROCESSING	7. UNDERGROUND INJECTION
		8. SOLVENT RECOVERY	8. OTHER (specify):
		9. OTHER (specify):	

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Sulfur dioxide chrome reduction followed by lime precipitation is used for chrome removal. Alkaline chlorination is used for cyanide removal.

V. WASTE RELATED INFORMATION

A. WASTE TYPE

☐ 1. UNKNOWN ☐ 2. LIQUID ☐ 3. SOLID ☒ 4. SLUDGE ☐ 5. GAS

B. WASTE CHARACTERISTICS

☐ 1. UNKNOWN ☐ 2. CORROSIVE ☐ 3. IGNITABLE ☐ 4. RADIOACTIVE ☐ 5. HIGHLY VOLATILE
☒ 6. TOXIC ☒ 7. REACTIVE ☒ 8. INERT ☐ 9. FLAMMABLE

☐ 10. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT 12 to 20	AMOUNT	AMOUNT	AMOUNT 1,000,000	AMOUNT	AMOUNT 10
UNIT OF MEASURE cubic yards/wk	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE pounds/year	UNIT OF MEASURE	UNIT OF MEASURE cubic yards/wk
<input checked="" type="checkbox"/> (1) PAINT, PIGMENTS	<input checked="" type="checkbox"/> (1) OILY WASTES	<input checked="" type="checkbox"/> (1) HALOGENATED SOLVENTS	<input checked="" type="checkbox"/> (1) ACIDS HCl	<input checked="" type="checkbox"/> (1) FLYASH	<input checked="" type="checkbox"/> (1) LABORATORY PHARMACEUT.
<input checked="" type="checkbox"/> (2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGENATED SOLVENTS	<input checked="" type="checkbox"/> (2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	<input checked="" type="checkbox"/> (3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	<input checked="" type="checkbox"/> (4) MUNICIPAL
<input checked="" type="checkbox"/> (5) OTHER (specify): cyanide			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify):
			<input checked="" type="checkbox"/> (6) CYANIDE	(6) OTHER (specify):	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			<input checked="" type="checkbox"/> (10) METALS		
			(11) OTHER (specify):		

recycled paper

ecology and environment, inc.

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

Chromic acid, nitric acid, cyanide, chlorine, zinc hydrochloric acid, sodium hydioride

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				
2. HUMAN HEALTH	X			
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY	X			Possible cyanide gas poisoning
5. CONTAMINATION OF WATER SUPPLY	X			via Mississippi River
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER	X			
8. CONTAMINATION OF SURFACE WATER		X	ongoing	a drainage creek has been contaminated
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL		X	11-11-80	suspected of resulting from Collis
11. CONTAMINATION OF AIR		X	Sept 1980	Cyanide gas
12. NOTICEABLE ODORS		X	Sept 1980	Ammonia was once noticed
13. CONTAMINATION OF SOIL		X	numerous	resulting from several spills
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS		X	numerous	spills of sludge, acid, & other chemicals
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- ☒ 1. NPDES PERMIT ☐ 2. SPCC PLAN ☐ 3. STATE PERMIT (specify): _____
☐ 4. AIR PERMITS ☐ 5. LOCAL PERMIT ☐ 6. RCRA TRANSPORTER
☐ 7. RCRA STORER ☐ 8. RCRA TREATER ☐ 9. RCRA DISPOSER
☐ 10. OTHER (specify): _____

B. IN COMPLIANCE?

- ☐ 1. YES ☐ 2. NO ☒ 3. UNKNOWN

4. WITH RESPECT TO (list regulation name & number): _____

VIII. PAST REGULATORY ACTIONS

- ☐ A. NONE ☐ B. YES (summarize below)

Site has violated NPDES permit in the past

IX. INSPECTION ACTIVITY (past or on-going)

- ☐ A. NONE ☐ B. YES (complete items 1, 2, 3, & 4 below)

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION

X. REMEDIAL ACTIVITY (past or on-going)

- ☒ A. NONE ☐ B. YES (complete items 1, 2, 3, & 4 below)

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment (Section II) information on the first page of this form.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION VII SITE NUMBER (to be assigned by HQ)

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (Section II). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME
Collis Corporation

B. STREET (or other identifier)
2005 South 19th Street

C. CITY
Clinton

D. STATE
Ia

E. ZIP CODE
52732

F. COUNTY NAME
Clinton

G. SITE OPERATOR INFORMATION

1. NAME
Collis Corporation

2. TELEPHONE NUMBER

3. STREET

4. CITY

5. STATE

6. ZIP CODE

H. REALTY OWNER INFORMATION (if different from operator of site)

1. NAME
Chamberlain Mfg. Corp., P.O. Box 59

2. TELEPHONE NUMBER

3. CITY
Elmhurst

4. STATE
Ill.

5. ZIP CODE
60126

I. SITE DESCRIPTION

J. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☐ 5. PRIVATE

II. TENTATIVE DISPOSITION (complete this section last)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (mo., day, & yr.)

B. APPARENT SERIOUSNESS OF PROBLEM
☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME

2. TELEPHONE NUMBER

3. DATE (mo., day, & yr.)

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME
John Zirschky

2. TITLE
Environmental Engineer

3. ORGANIZATION
Ecology and Environment, Inc.

4. TELEPHONE NO. (area code & no.)
(b) (6)

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
Ken Snell	Ecology and Environment	(b) (6)

C. SITE REPRESENTATIVES INTERVIEWED (corporate officials, workers, residents)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
V.R. Showerman	Plant Manager (b) (6) 1	see above
Nello Arterburn	Planting Superintendent (b) (6)	see above

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
Jedder Hauling	(b) (6)	Clinton, Iowa	Chrome and cyanide sludge.
Browning-Ferris		Rockford, Illinois	Backup hauler

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
Browning-Ferris		Rockford, Illinois - principal disposal site
Nuclear Engineering		Shetfield, Illinois - backup site
John Sexton		Des Plaines, Illinois - backup site

G. DATE OF INSPECTION

11/13/80

H. TIME OF INSPECTION

900-1100

I. ACCESS GAINED BY: (credentials must be shown in all cases)

☒

1. PERMISSION

☐

2. WARRANT

J. WEATHER (describe)

Cloudy, 50°F

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE Sludge	X	EPA region VII lab	
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL			
h. VEGETATION			
i. OTHER (specify) Effluent discharge	X		

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS

IV. SAMPLING INFORMATION (continued)

C. PHOTOS

1. TYPE OF PHOTOS

☒ a. GROUND ☐ b. AERIAL

2. PHOTOS IN CUSTODY OF:

John Zirschky

D. SITE MAPPED?

☐ YES. SPECIFY LOCATION OF MAPS:

E. COORDINATES

1. LATITUDE (deg.-min.-sec.)

2. LONGITUDE (deg.-min.-sec.)

V. SITE INFORMATION

A. SITE STATUS

☒ 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)☐ 2. INACTIVE (Those sites which no longer receive wastes.)☐ 3. OTHER (specify):
(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?

☐ 1. NO☒ 2. YES (specify generator's four-digit SIC Code): 3499 refrigerator shelves 3471 electroplating 3481 miscellaneous wire products

C. AREA OF SITE (in acres)

D. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☐ 2. YES (specify):

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

<input checked="" type="checkbox"/> A. TRANSPORTER	<input type="checkbox"/> B. STORER	<input type="checkbox"/> C. TREATER	<input type="checkbox"/> D. DISPOSER
1. RAIL	1. PILE	1. FILTRATION	1. LANDFILL
2. SHIP	2. SURFACE IMPOUNDMENT	2. INCINERATION	2. LANDFARM
3. BARGE	3. DRUMS	3. VOLUME REDUCTION	3. OPEN DUMP
4. TRUCK	4. TANK, ABOVE GROUND	4. RECYCLING/RECOVERY	<input checked="" type="checkbox"/> 4. SURFACE IMPOUNDMENT
5. PIPELINE	5. TANK, BELOW GROUND	<input checked="" type="checkbox"/> 5. CHEM./PHYS./TREATMENT	5. MIDNIGHT DUMPING
6. OTHER (specify):	6. OTHER (specify):	6. BIOLOGICAL TREATMENT	6. INCINERATION
		7. WASTE OIL REPROCESSING	7. UNDERGROUND INJECTION
		8. SOLVENT RECOVERY	8. OTHER (specify):
		9. OTHER (specify):	

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this form.

☐ 1. STORAGE ☐ 2. INCINERATION ☐ 3. LANDFILL ☒ 4. SURFACE IMPOUNDMENT ☐ 5. DEEP WELL

☐ 6. CHEM/BIO/PHYS TREATMENT ☐ 7. LANDFARM ☐ 8. OPEN DUMP ☐ 9. TRANSPORTER ☐ 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

☒ 1. LIQUID ☐ 2. SOLID ☒ 3. SLUDGE ☐ 4. GAS

effluent

electroplating sludge

B. WASTE CHARACTERISTICS

☐ 1. CORROSIVE ☐ 2. IGNITABLE ☐ 3. RADIOACTIVE ☐ 4. HIGHLY VOLATILE

☒ 5. TOXIC ☒ 6. REACTIVE ☒ 7. INERT ☐ 8. FLAMMABLE

will react with acids to release cyanide gas

9. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

VII. WASTE RELATED INFORMATION (continued)

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT 12-20	AMOUNT unknown	AMOUNT	AMOUNT approx. 1 mill	AMOUNT unknown	AMOUNT 10
UNIT OF MEASURE C.Y./week	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE pounds/year	UNIT OF MEASURE	UNIT OF MEASURE cubic yds/week
<input checked="" type="checkbox"/> (1) PAINT, PIGMENTS	<input checked="" type="checkbox"/> (1) OILY WASTES	<input checked="" type="checkbox"/> (1) HALOGENATED SOLVENTS	<input checked="" type="checkbox"/> (1) ACIDS HCl	<input checked="" type="checkbox"/> (1) FLYASH	<input checked="" type="checkbox"/> (1) LABORATORY, PHARMACEUT.
<input checked="" type="checkbox"/> (2) METALS SLUDGES	<input type="checkbox"/> (2) OTHER(specify):	<input checked="" type="checkbox"/> (2) NON-HALOGENATED SOLVENTS	<input checked="" type="checkbox"/> (2) PICKLING LIQUORS	<input type="checkbox"/> (2) ASBESTOS	<input type="checkbox"/> (2) HOSPITAL
<input type="checkbox"/> (3) POTW	oily wastes consist of residue on metal shavings	<input type="checkbox"/> (3) OTHER(specify):	<input type="checkbox"/> (3) CAUSTICS	<input type="checkbox"/> (3) MILLING/MINE TAILINGS	<input type="checkbox"/> (3) RADIOACTIVE
<input type="checkbox"/> (4) ALUMINUM SLUDGE			<input type="checkbox"/> (4) PESTICIDES	<input type="checkbox"/> (4) FERROUS SMELTING WASTES	<input checked="" type="checkbox"/> (4) MUNICIPAL
<input checked="" type="checkbox"/> (5) OTHER(specify):			<input type="checkbox"/> (5) DYES/INKS	<input type="checkbox"/> (5) NON-FERROUS SMELTING WASTES	<input type="checkbox"/> (5) OTHER(specify):
Cyanide sludges			<input checked="" type="checkbox"/> (6) CYANIDE	<input checked="" type="checkbox"/> (6) OTHER(specify):	metal shavings
			<input type="checkbox"/> (7) PHENOLS		
		<input type="checkbox"/> (8) HALOGENS			
		<input type="checkbox"/> (9) PCB			
			<input checked="" type="checkbox"/> (10) METALS		
			<input type="checkbox"/> (11) OTHER(specify):		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X')			3. TOXICITY (mark 'X')				4. CAS NUMBER	5. AMOUNT	6. UNIT
	a. SOLID	b. LIQ.	c. VAPOR	a. HIGH	b. MED.	c. LOW	d. NONE			
Chromate		X							100,000 #/yr	
Sodium Cyanide	X							143-33-9	60,000 #/yr	
Nitric Acid		X						7697-37-2	1,300 gal/yr	
Hydrochloric Acid		X						7647-01-0	560,000 #/yr	
Sodium Hydroxide	X							1310-73-2	150,000 #/yr	
Chlorine			X					7782-50-5	unknown	
Zinc								7440-66-6	108,000 #/yr	

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☒ A. HUMAN HEALTH HAZARDS

Decomposition of sludge could result in the formation of cyanide gas

VIII. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE☒ C. WORKER INJURY/EXPOSURE

Contractor hired by Collis reported symptoms of cyanide poisoning

☐ D. CONTAMINATION OF WATER SUPPLY☐ E. CONTAMINATION OF FOOD CHAIN☒ F. CONTAMINATION OF GROUND WATER

Potential is high. Oil migration through the soil was observed.

☒ G. CONTAMINATION OF SURFACE WATER

A drainage creek next to Collis has been significantly contaminated.

VIII. HAZARD DESCRIPTION (continued)

☐ H. DAMAGE TO FLORA/FAUNA☒ I. FISH KILL

A fish kill downstream of Collis was reported November 12, 1980, but Collis has not been positively identified as the source.

☒ J. CONTAMINATION OF AIR

Cyanide and ammonia from a sludge pit did contaminate the local environment during the latter part of September, 1980.

☐ K. NOTICEABLE ODORS☒ L. CONTAMINATION OF SOIL

Runoff from spills and sludge pit overflows has probably contaminated the adjacent soil.

☐ M. PROPERTY DAMAGE

VIII. HAZARD DESCRIPTION (continued)

☐ N. FIRE OR EXPLOSION☒ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

Spills have been observed in the past. One sludge spill was observed between Collis and the drainage creek during the inspection.

☐ P. SEWER, STORM DRAIN PROBLEMS☐ Q. EROSION PROBLEMS☐ R. INADEQUATE SECURITY☐ S. INCOMPATIBLE WASTES

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING☐ U. OTHER (specify):

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify units)
1. IN RESIDENTIAL AREAS	unknown			
2. IN COMMERCIAL OR INDUSTRIAL AREAS	unknown			
3. IN PUBLICLY TRAVELLED AREAS	unknown			
4. PUBLIC USE AREAS (parks, schools, etc.)	unknown			

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit) 4 to 5 feet (surface aquifer)	B. DIRECTION OF FLOW North (surface aquifer)	C. GROUNDWATER USE IN VICINITY Process water, drinking water
D. POTENTIAL YIELD OF AQUIFER unknown	E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure) 1/4 mile	F. DIRECTION TO DRINKING WATER SUPPLY northwest
G. TYPE OF DRINKING WATER SUPPLY		
<input type="checkbox"/> 1. NON-COMMUNITY < 15 CONNECTIONS*	<input checked="" type="checkbox"/> 2. COMMUNITY (specify town): <u>Clinton, well is located 1/4 mile northwest</u>	
<input type="checkbox"/> 3. SURFACE WATER	<input type="checkbox"/> 4. WELL	

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X')		
					1. YES	2. NO	3. UN- KNOWN
NPDES	IDEQ	IA 0000752	1971				X

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE
 ☒ YES (summarize in this space)

The effluent from the plant has been found to exceed discharge standards for metals. Spills from the site have also caused significant contamination of the drainage creek located immediately north of the site.

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition (Section II) information on the first page of this form.

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COM- MUNITY (mark 'X')	5. COMMUN- ITY (mark 'X')
Clinton	unknown	1/4 mile northwest of site		X

I. RECEIVING WATER

1. NAME

☐ 2. SEWERS☒ 3. STREAMS/RIVERS

Mill Creek/Miss. River

☐ 4. LAKES/RESERVOIRS☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

Drinking water, primary and secondary body contact

XI. SOIL AND VEGETATION DATA

LOCATION OF SITE IS IN:

☐ A. KNOWN FAULT ZONE☐ B. KARST ZONE☐ C. 100 YEAR FLOOD PLAIN☐ D. WETLAND☐ E. A REGULATED FLOODWAY☐ F. CRITICAL HABITAT☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. COVERED BURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
	1. SAND				
	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

☐ A. UNKNOWN☐ B. VERY HIGH (100,000 to 1000 cm/sec.)☐ C. HIGH (1000 to 10 cm/sec.)☒ D. MODERATE (10 to .1 cm/sec.)☐ E. LOW (.1 to .001 cm/sec.)☐ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☐ 1. YES☐ 2. NO

3. COMMENTS:

H. DISCHARGE AREA

☐ 1. YES☐ 2. NO

3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.

J. OTHER GEOLOGICAL DATA

The plant is in an old riverbed of the Mississippi river

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT
(Supplemental Report)

INSTRUCTION
Answer and Explain
as Necessary.

1. TYPE OF IMPOUNDMENT

Six Sludge Pits

2. STABILITY/CONDITION OF EMBANKMENTS

3. EVIDENCE OF SITE INSTABILITY (Erosion, Settling, Sink Holes, etc.)

☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE

☐ YES ☒ NO

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT

☒ YES ☐ NO

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT

☐ YES ☒ NO

7. IMPOUNDMENT HAS LINER SYSTEM

☐ YES ☒ NO

7a. INTEGRITY OF LINER SYSTEM CHECKED

☐ YES ☐ NO

7b. FINDINGS

8. SOIL STRUCTURE AND SUBSTRUCTURE

Sandy silty subsoil which would not prevent leachate migration

9. MONITORING WELLS

☐ YES ☒ NO

10. LENGTH, WIDTH, AND DEPTH

LENGTH WIDTH DEPTH 7 feet

11. CALCULATED VOLUMETRIC CAPACITY

1000 cubic yards

12. PERCENT OF CAPACITY REMAINING

none

13. ESTIMATE FREEBOARD

less than 1 foot sludge pits are currently being dredged

14. SOLIDS DEPOSITION

☒ YES ☐ NO

15. DREDGING DISPOSAL METHOD

BFI landfill - Rockford, Illinois

16. OTHER EQUIPMENT

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER TREATMENT FACILITY INSPECTION

Page 1 of 7
23-26-1-00
Facility No.

Name of Facility: Collis Company

Name of Owner: Chamberlain Manufacturing Corporation - Collis Division

Address: P. O. Box 231

2005 South 19th Street

Clinton, Iowa 52732

Phone: (b) (6) / /

Receiving Stream: Drainage Ditch - Mill Creek - Tributary to Mississippi River

Date This Inspection: 2/26/80

Date Last Inspection: 8/29/79

Purpose: Compliance monitoring in conjunction with UHL sampling

Design Capacity: 0.57 mgd Lbs BOD PE BOD

Now Treating: 0.26 * mgd (Avg Daily) Lbs BOD PE BOD

Population Served: % of Total %

Samples Collected: TY Type Composite and grabs ☒ Lab Data Attached

Plant Description Card: ☒ On File ☐ Attached to DEQ Copy * ave. 1/79 - 12/79

Certification Update Memo: ☐ Attached ☐ No Change in D.R.

Significant Industrial Contributors Form: ☐ Attached ☐ On File ☐ No Sig. Contr.

Responsible Operator

Grade

Persons Interviewed R. A. Bell

Title Division Vice President

Virgil Showerman

Title Plant Manager

Nello Arterburn

Title Plating Superintendent

Inspector: Steve Hoambrecker

Date of Report April 14, 1980

Reviewer: Earl C. Vaelke

Date Reviewed 6/5/80

Treatment Process: ☐ Trickling Filter ☐ Activated Sludge, ☐ Lagoon ☐ Disinfection ☒ Other/Supplementary chrome and cyanide ox-red, plus metals precipitation Modification

Process Waste Description: plating operation, zinc cyanide and chrome

I. PERMIT COMPLIANCE SUMMARY:

A. EFFLUENT LIMITATIONS

	SAT	MARG*	UNSAT*
1. EQAP Samples <u>NA</u>			
2. Self-Monitoring Results <u> </u>		X	
3. Samples this Inspection <u> </u>			X

4. Visual Appearance of Effluent Clear with some foam

5. Visual Appearance, Receiving Stream: Clear with an evident sludge accumulation in the creek.

B. SELF-MONITORING:

	SAT	MARG*	UNSAT*
1. Operation Reports Submitted <u> </u>	X		
2. Required Data Entered on Reports <u> </u>	X		
3. Testing Adequacy <u> </u>			X

C. COMPLIANCE SCHEDULE:

1. Compliance with Schedule <u> </u>			
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WASTEWATER TREATMENT FACILITY INSPECTION

Page 2 of 7

23-26-1-00

Facility No.

II. FACILITY EVALUATION:

Are deficiencies noted or significant observations made during the inspection? **

ITEM	YES	NO
1. COLLECTION SYSTEM <u>Plating System</u>		
a. Operation & Maintenance		x
b. Physical Condition		x
c. Dry Weather Capacity		x
d. Infiltration/Inflow		x
e. By-pass		
2. LIFT STATION(S) (COLLECTION SYSTEM)		
a. Operation & Maintenance		
b. Physical Condition		
c. Capacity		
d. Reliability/Emergency Operation		
3. INDUSTRIAL WASTE PRE-TREATMENT		
a. Waste Toxicity/Compatibility		
b. Strength Reduction		
c. Affect on Treatment Plant		
4. PRE-TREATMENT UNITS (this facility)		
a. Operation & Maintenance	x	
b. Physical Condition	x	
c. Capacity		x
d. Effectiveness		x
PRIMARY TREATMENT		
a. Operation & Maintenance		
b. Physical Condition		
c. Capacity		
d. Sludge/Scum Removal		
e. Effectiveness		
6. SECONDARY TREATMENT		
a. Operation & Maintenance		
b. Physical Condition		
c. Capacity		
d. Recirculation		
e. Freezing		
f. Effectiveness		
7. FINAL SETTLING		
a. Operation & Maintenance	x	
b. Physical Condition		x
c. Capacity		x
d. Effectiveness		x
8. SUPPLEMENTARY TREATMENT <u>Diatomaceous earth filter</u>		
a. Operation & Maintenance	x	
b. Physical Condition	x	
c. Capacity		x
d. Effectiveness		x

ITEM	YES	NO
9. SLUDGE HANDLING AND DISPOSAL		
a. Operation & Maintenance	x	
b. Physical Condition		
c. Capacity		
d. Effectiveness		
e. Final Disposal, Solids	x	
f. Final Disposal, Liquids		
10. LAGOON STRUCTURES		
a. Maintenance		
b. Physical Condition		
c. Capacity		
d. Cell Configuration		
e. Storage/Drawdown Management		
11. FLOW MEASUREMENT		
A. Operation & Maintenance		
b. Capacity		
c. Continuity		
d. Location/Method/Effectiveness		
12. PUMPING		
a. Operation & Maintenance		
b. Physical Condition		
c. Capacity		
d. Reliability/Emergency Operation		
13. MISCELLANEOUS		
a. Location		
b. Odors		
c. Emergency Operation		
d. By-pass(s)		
e. Equipment		
f. Buildings & Grounds	x	
g. Other		
14. STAFFING, OPERATOR CERTIFICATION		
a. Operator, Direct Responsibility		
b. Shift Operator(s)		
c. General Staffing		
15. SUPPLEMENTARY		
a. Permit Availability		
b. Operation Reports Availability		
c. Equipment Records Maintenance		
d. Previously Noted Deficiencies		
e. Improvements		
f. Domestic/Industrial Growth		
g. Other		

**Yes - See comments section for details

**No - No deficiencies or significant observations were noted

**Lack of Entry - Item not applicable or not observed

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY

SANITARY LANDFILL INSPECTION ☐

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WATER SUPPLY INSPECTION ☐

23-26-1-00

SEWAGE TREATMENT FACILITY INSPECTION ☒

Facility/Permit #

AIR QUALITY INSPECTION ☐

ITEM CODE	COMMENTS AND RECOMMENDATIONS
General	<p>The Collis Company is engaged in the manufacturing and plating of primarily interior refrigerator components. The refrigerator components are fabricated, cleaned through a series of acid-alkaline baths, plated in a zinc-cyanide solution, dipped in a chromate solution, rinsed, lacquer coated, oven dried, inspected and packaged for shipping.</p> <p>Domestic wastes from approximately 200 employees are discharged into the City sewer system. Process wastes are treated then discharged to a drainage ditch, tributary of Mill Creek, a tributary of the Mississippi River.</p> <p>Segregated chrome wastes are reduced from the toxic hexavalent state to the trivalent state with sulfur dioxide in an acidic environment. Segregated cyanide wastes receive two stage alkaline chlorination. Automatic oxidation-reduction (ORP) probes are utilized for regulating the chrome reduction and cyanide oxidation processes. Pretreated chrome and cyanide wastes are combined with acid-alkaline waste streams in a neutralization tank where the pH is to be maintained near 8.5 before discharging to settling basin where the trivalent chrome and zinc are to be precipitated in a sludge. A polymer is added to the settling basin influent to enhance settling. Following the settling basin the waste stream is pumped through a diatomaceous earth pressure filter, discharging into the drainage ditch, a tributary of Mill Creek.</p> <p>Sludge is dewatered by a pressure filter. The dried sludge is stored in a roll-off box then taken to either the Clinton County East landfill or several possible sites in Illinois. Additional comments in section 9.</p>
A2	<p>Operational records were reviewed from June - December 1979 indicating general compliance with effluent limitations except for one excursion in June causing permitted suspended solids and zinc average and maximum limitations to be exceeded.</p>
A3, B3	<p>Numerous samples were collected during this inspection. An 18 hour time composite sample and a grab sample of the treatment plant effluent were collected. Additional grab samples were collected from sludge storage container observed leaking, yard drainage into Mill Creek, 12 inch storm drainage pipe under sludge lagoons, S 19th Street storm drain runoff and a sludge deposit from Mill Creek. Table I illustrating these results is attached to this report. A copy of the University Hygienic Laboratory results is also attached.</p> <p>Various samples collected were split between UHL and Collis personnel. An 18-hour composite sample and a grab sample of the final effluent plus a grab sample of the 12 inch storm drain running under the sludge lagoons were split. Table II, accompanying this report illustrates the results of the split samples.</p>

SANITARY LANDFILL INSPECTION ☐Page 4 of 7WATER SUPPLY INSPECTION ☐WASTEWATER TREATMENT FACILITY INSPECTION ☒23-26-1-00
Facility/Permit #AIR QUALITY INSPECTION ☐

ITEM CODE	COMMENTS AND RECOMMENDATIONS
	<p>The split sample comparison indicates a substantial variance in results reported, especially for total chromium reporting. Total chromium results analyzed by the UHL were generally 10 fold plus in excess of those reported by Collis Company. Other metal analysis results were not consistent with those reported by the UHL.</p> <p>It is recommended that the Collis Company get together with Lee Friel of the UHL to check on laboratory procedures. It is also possible that the UHL would send Collis Company a set of spiked samples for a quality control check.</p> <p>Results of the treatment plant effluent indicate non-compliance with effluent limitations. 46 mg/l (composite) and 8.2 mg/l (grab) total chromium greatly exceed the maximum permitted effluent limitations of .38 mg/l.</p> <p>Total chromium results 46 mg/l (composite) and 8.2 mg/l (grab) greatly exceed the maximum permitted effluent limitations of 0.38 mg/l. Total suspended solids results 604 mg/l (composite) and 122 mg/l (grab) also greatly exceed the maximum permitted effluent limitation of 15 mg/l. Zinc results 42 mg/l (composite) and 6.4 mg/l (grab) excessively exceed the maximum permitted effluent limitation of 0.75 mg/l. The 0.6 mg/l cyanide analysis on the grab sample also exceeds the permitted effluent limitation of 0.4 mg/l.</p> <p>Excessive discharge concentrations are probably directly related to the diatomaceous earth filter problem causing the plant to be shut down. Similar occurrences may reflect the excessive sludge deposits observed in Mill Creek.</p> <p>Results of the sample collected from the runoff from the sludge storage container indicate a high organic substance 6700 mg/l BOD and 46,200 mg/l COD with excessive metals concentrations, 140 mg/l total chrome, 3.0 mg/l hexavalent chrome, 58 mg/l total zinc and 41 mg/l total iron..... Another incident of careless operational practice.</p> <p>The analyses of the sample of yard drainage into Mill Creek contained the grey colored runoff from the sludge storage container. The runoff from the sludge container was diluted about 9:1 with water which had overflowed the settling basin. Parameters not expected to be present in the settling basin overflow were nearly diluted 10 fold in the sample to the creek: BOD - 650 mg/l, COD 4600 mg/l, suspended solids - 160 mg/l and iron - 4.2 mg/l. Hexavalent chrome and zinc, expected to be present in settling basin, were present in a diluted concentration of the sludge container runoff but greater than a 10 fold decrease. Hexavalent chrome discharge to the creek was 2.0 mg/l and the zinc concentration was 7.2 mg/l. Total chrome was measured at 12 mg/l concentration.....All parameters exceed any allowable effluent discharge limitations.</p>

SANITARY LANDFILL INSPECTION ☐

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WATER SUPPLY INSPECTION ☐

23-26-1-00

WASTEWATER TREATMENT FACILITY INSPECTION ☒

Facility/Permit #

AIR QUALITY INSPECTION ☐

ITEM CODE	COMMENTS AND RECOMMENDATIONS
	<p>It was suspected that the 12 inch storm sewer might possibly contain excessive metals from the sludge lagoons. Metal concentrations - 0.28 mg/l total chrome, 0.02 mg/l lead and 0.64 mg/l zinc do not necessarily prove or disprove this theory.....Additional samples from the storm sewer may need to be collected.</p> <p>The sludge sample collected from the creek indicates an excessive cumulation of chemicals typical of Collis Company's discharge: Total chromium - 5500 mg/l, hexavalent chromium - 8.0 mg/l, total zinc - 2900 mg/l and cyanide - 1800 ppm. Lead, moderately present in Collis Company discharge, was monitored at 4.4 mg/l. Nickel, previously utilized by Collis Company, was analyzed at 15 mg/l concentration in the sludge.....Pending further investigation, it may be necessary to dredge areas of the creek containing the contaminated sludge.</p>
4a, b	<p>The automatic lime feeder system to the neutralization basin was inoperative at the time of the inspection. Consequently, bags of lime were being batch dumped into the neutralization basin.</p> <p>Batch dumping as observed is not as capable of maintaining a steady pH, necessary for adequate precipitation of heavy metals. The continuous feed system should be repaired as soon as possible.</p>
7a	<p>During the inspection, waste treatment operational problems made it necessary to shut down the plant. During the shut down period, the lift pump to the settling basin was not shut off causing the settling basin to overflow, bypassing the final filter.</p> <p>Drainage patterns in the snow as well as soil erosion problems tend to indicate that the settling basin has overflowed other times than the incident observed this inspection.</p> <p>Operational procedures should be established to prevent similar incidents from occurring in the future.</p>
8a, 8b	<p>During the inspection the diatomaceous earth filter developed operational problems. The gasket was not sealing properly, plus problems developed with the hydraulic system. This problem may have been complicated by the fact that the normal operator went home sick, leaving the facility without someone who was directly familiar with the operation of the facilities. Due to the filter problems, the entire plant had to be shut down.</p> <p>Someone familiar with the operation of the filter presses should be available at all times. It may be necessary to train others as an auxiliary job.</p>

SANITARY LANDFILL INSPECTION ☐Page 6 of 7WATER SUPPLY INSPECTION ☐

23-26-1-00

WASTEWATER TREATMENT FACILITY INSPECTION ☒

Facility/Permit #

AIR QUALITY INSPECTION ☐

ITEM CODE	COMMENTS AND RECOMMENDATIONS
9a	<p>The sludge filter press appeared to be operating satisfactorily, however, problems were noted relating to the handling aspect of the sludge. The dewatered sludge is transferred from the filter press to an auger dumping the sludge in a rolloff box. There was an accumulation of sludge piled up beneath the transfer point from the belt of the auger. This area is subject to runoff into the creek, potentially carrying toxic metals (chrome and zinc) into the creek.</p> <p>Also observed during the inspection was the disposal of a milky grey substance into the rolloff box which leaked from the rolloff box eventually discharging into the creek.</p>
9e	<p>Prior to 10-31-77, the disposal of the chromate sludge was authorized for disposal at the Clinton County East Landfill, at which time the disposal of all sludges was terminated by the Clinton County Area Solid Waste Agency. After sludge disposal at the Clinton County East Landfill was terminated, it was reported that the sludge was being hauled to Illinois for disposal.</p> <p>During this inspection, it was learned that the chromate sludge has been taken to the Clinton County East Landfill for the past several months.</p> <p>Heavy metal sludges similar to Collis Company's sludge must have a valid special waste authorization for disposal at a sanitary landfill in Iowa. Acceptance of such waste must have approval from the landfill's governing agency and must be identified upon receipt at the landfill.</p>
10f	<p>Just prior to this inspection, a spill of chromate solution occurred on plant property during a transfer of the liquid. The spilled chromate solution was reportedly batch treated with sodium bisulfite and lime to reduce the chromate from hexavalent to the trivalent state and stabilize the pH. However, minimal attempts were made to satisfactorily contain and clean up the situation prior to Departmental insistence. The chromate solution was observed pooled in low lying areas plus tracked from facilities, traceable on the snow packed streets.</p> <p>Results of a sample collected from street runoff containing the spilled chromium solution indicated excessive amounts of total (45 mg/l) and hexavalent 27 (mg/l) chromium plus 4.2 (mg/l) zinc and 0.86 (mg/l) lead being discharged into the creek as a result of poor spill clean up procedures.</p> <p>In general, housekeeping behind the facilities in the area of the treatment plant and chemical storage area appears extremely poor. Several corrective measures which it is felt should be considered are: containment dike around storage tanks and a truck loading - unloading</p>

IOWA DEPARTMENT OF ENVIRONMENTAL QUALITY

SANITARY LANDFILL INSPECTION ☐Page 7 of 7WATER SUPPLY INSPECTION ☐23-26-1-00WASTEWATER TREATMENT FACILITY INSPECTION ☒

Facility/Permit #

AIR QUALITY INSPECTION ☐

ITEM CODE	COMMENTS AND RECOMMENDATIONS
	<p>facility with containment area capable of retaining spilled chemicals. This approach might be a substitute for collecting runoff from this area, recommended in the last inspection report.</p> <p>A spill report has been filed with EPA and DEQ concerning the chromate spill.</p> <p style="text-align: center;">SUMMARY OF RECOMMENDATIONS</p> <ol style="list-style-type: none">1. Effluent limitations must be continuously met.2. Discharges into Mill Creek other than treated effluent are not permitted and should cease.3. A laboratory quality control check should be made.4. Proper spill containment and cleanup measures must be established and utilized.5. Proper sludge handling procedures must be utilized.6. The continuous lime feeder system should be repaired.7. Wastewater plant operation shut down procedures should be established.8. Someone familiar with operation of the filter process should be available at all times. <p>SH:w</p>

TABLE

Results of Samples collected this Inspection

	TSS	Total Chrome	Hex Chrome	Zinc	Lead	Cyanide	BOD	BOD
Maximum Permit Limitations	15	0.38	0.05	0.75	NA	0.4	NA	NA
Final Effluent 18 hr. composite	604	46	<0.05	42	0.16			
Final Effluent grab sample	122	8.2	<0.05	6.4	0.03	0.6		
Sludge storage container leakase	1160	140	3.0	58	0.26		6700	42600
Yard drainage into Mill Creek		12	2.0	7.2	0.12		650	460
Street runoff into storm sewer		45	27	4.2	0.86			
Reported Storm Drain under lagoons		0.28		0.64	0.02			
Downstream stream sediment sample		5500	8.0	2900	4.4	1800		

TABLE II

Comparison of Split Samples

	Final Effluent 18 hr. composite		Final Effluent Grab		Storm Sewer under lagoons	
	UHL	Collis	UHL	Collis	UHL	Collis
TSS	604	424	122	111.4	-	-
Zinc	42	55.26	6.4	0.36	0.64	0.55
Hex Chrome	<0.05	0.25	0.05	0.008	-	<0.01
Total Chrome	46	4.95	8.2	0.63	0.28	0.01
Lead	0.16	0.02	0.03	0.03	0.02	0.05

All results reported in mg/l.

WATER QUALITY REPORT

 HYGIENIC LABORATORY, Des Moines branch
 H.A. WALLACE BUILDING
 DES MOINES, IOWA 50319

Town Source Specific Location	Clinton Collis Co. Leakage from sludge collection box, prior to landfill, grab	Clinton Collis Co. Yard drainage to Mill Creek, grab	
Date Collected	2/26/80	2/26/80	
Date Received	2/27/80	2/27/80	
Lab. Number	5787	5789	
Collection Time	1300	1320	FIELD DATA
pH			
Temperature			
Dissolved Oxygen			
BACTERIOLOGICAL EXAMINATION			
Fecal Coliform/100 ml			
CHEMICAL ANALYSIS (as mg/l unless designated otherwise)			
Conductance (micromhos)			
MBAS (as LAS)			
pH (units)			
Alkalinity: P			
T			
NITROGEN: Organic N			
Ammonia N			
Nitrite N			
Nitrate N			
Nitrate as NO ₃			
RESIDUE: Total			
Fixed			
Volatile			
Filtrable Residue T			
F			
V			
Nonfiltrable Residue T	1,160	160	
F			
V			
Suspended Matter (ml/l)			
Phosphate: Filtrable P			
Total P			
Dissolved Oxygen	6,700	650	
DO	46,200	4600	
Grease or Oil			
Acidity (JTG)			
Total Hardness (as CaCO ₃)			
Calcium (Ca ⁺⁺)			
Magnesium (Mg ⁺⁺)			
Chloride (Cl ⁻)			
Sulfate (SO ₄ ⁻²)			

REMARKS:

Grey colored

 COLLECTOR
 REPORT TO

 Meierhoff/Prill
 DEQ #6
 Washington, IA

 W.J. HAUSLER, JR., Ph.D.
 DIRECTOR

MAR 11 1980

Town	Clinton	Clinton	Clinton
Source	Collis Co.	Collis Co.	Collis Co.
Specific Location	Leakage from sludge collection box, prior to landfill, grab	Subsurface sludge in Mill Creek at S. 19th Street Bridge, grab	Yard drainage to Mill Creek, grab
Date Collected	2/26/80 (1300)	2/26/80 (1315)	2/26/80 (1320)
Date Received	2/27/80	2/27/80	2/27/80
Lab Number	5787	5788	5789

METALS ANALYSIS (as mg/l unless designated otherwise)

Arsenic			
Barium			
Cadmium			
Chromium, Total	140	5500	12
Chromium, Hexavalent	3.0*	8.0*	2.0
Copper			
Lead, Total	0.26	4.4	0.12
Mercury			
Nickel, Total		15	
Selenium			
Silver			
Zinc, Total	58	2900	7.2
Iron, Total	41		4.2
Cyanide		1800 ppm**	

REMARKS:

*Sample filtered for Hex Cr

**ppm by dry weight. Interferences may have prohibited full recovery of cyanide.

COLLECTOR
REPORT TOHeierhoff/Prill
DEQ #6
Washington, IA

Date Reported MAR 11 1980

W.J. Hauser Jr., Ph.D.
Director

WATER QUALITY REPORT
METALS

STATE HYGIENIC LABORATORY, Des Moines Branch
The University of Iowa
515:281-5371

Town	Clinton	Clinton	Clinton
Source	Collis Co.	Collis Co. WWTP	Collis Co. WWTP
Specific Location	Storm sewer drain S. 19th St. road runoff	final effluent 18 hr time composite at weir inside filter house	final effluent grab at outfall into creek
Date Collected	2/27/80	2/26-27/80	2/27/80
Date Received	2/28/80	2/28/80	2/28/80
Lab Number	5813	5815	5816

METALS ANALYSIS (as mg/l unless designated otherwise)

Arsenic			
Barium			
Cadmium			
Chromium, Total	45	46	8.2
Chromium, Hexavalent	27	<0.05	<0.05
Copper			
Lead	0.86	0.16	0.03
Mercury			
Nickel			
Selenium			
Amenable Cyanide			<0.1
Zinc	4.2	42	6.4
Total suspended solids		604	122
Chloride			0.6

REMARKS:

24 hr average flow
0.25 mgd

Instantaneous flow was
not available

TABLE NO.
REPORT NO.

Meierhoff/Prill
DEQ Region 1

Date Reported APR 03 1980

W.J. Hausler Jr., Ph.D.
Director

WATER QUALITY REPORT
METALS

STATE HYGIENIC LABORATORY, Des Moines Branch
The University of Iowa
515:281-5371

Town	Clinton		
Source	Collis Co.		
Specific Location	12" pipe under sludge lagoons, N of plant		
	grab		
Date Collected	2/27/80		
Date Received	2/28/80		
Lab Number	5817		

METALS ANALYSIS (as mg/l unless designated otherwise)

Arsenic			
Barium			
Cadmium			
Chromium, Total	0.28		
Chromium, Hexavalent			
Copper			
Lead	0.02		
Mercury			
Nickel			
Selenium			
Silver			
Zinc	0.64		

REMARKS: approximate flow may be 1 gal/min

ANALYST: Meierhoff/Prill
REPORT TO: DEQ Region 1

Date Reported: APR 08 1980

W.J. Hausler Jr., Ph.D.
Director

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY - REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO. _____ SURVEY LEADER Zirschky STORET NO. _____

DESCRIPTION Sludge sample from sludge hopper, still moist

GRAB SAMPLE DATA

FLOW	TEMP. °C	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
<input type="checkbox"/> 00059 (GPM)	AIR 00020	WATER 00010					
<input type="checkbox"/> 00061 (CFS)							

COLLECTION DATE YR 80 MO Nov. DAY 13 TIME 1015 SAMPLER NAME CODE 307 LAB NO. AN21C2

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR _____ MO _____ DAY _____ TIME _____ LAB NO. _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE: _____ MGD _____ 1000 L OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY		ANALYSES
			MOBILE	REGION	
1 qt glass jar	white			X	Metals
	orange			X	Cr (6)
	green			X	Cyanide

CONTACT: _____ SAMPLE ☒ YES SPLIT ☐ NO

REMARKS: One container only

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO. _____ SURVEY LEADER Zirschky STORET NO. _____

DESCRIPTION Sludge sample from recently dug sludge pit

GRAB SAMPLE DATA

FLOW	TEMP. °C		PH	DO	FECAL COLL.	OIL & GREASE	OTHER	OTHER
<input type="checkbox"/> 00059 (GPM)	AIR	WATER						
<input type="checkbox"/> 00061 (CFS)	00020	00010						

COLLECTION DATE	YR. <u>80</u>	MO. <u>Nov</u>	DAY <u>13</u>	TIME <u>1030</u>	SAMPLER NAME CODE _____	LAB NO. <u>AN21C3</u>

COLLECTION DATE	YR. _____	MO. _____	DAY _____	TIME _____	SAMPLER NAME CODE _____	LAB NO. _____

COLLECTION DATE	YR. _____	MO. _____	DAY _____	TIME _____	SAMPLER NAME CODE _____	LAB NO. _____

COLLECTION DATE	YR. _____	MO. _____	DAY _____	TIME _____	SAMPLER NAME CODE _____	LAB NO. _____

COMPOSITE SAMPLE DATA

BEGIN DATE: YR. _____	MO. _____	DAY _____	TIME _____	LAB NO. _____
END DATE: YR. _____	MO. _____	DAY _____	TIME _____	EQUIPMENT CODE: _____
FLOW RATE: _____	MGD _____	1000 L OF GAL DURING COMPOSITE PERIOD		SAMPLER NAME CODE _____
50050	50052			

WATER CHEMISTRY

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY		LAB NO. _____
			MOBILE	REGION	
1 qt glass jar	white				metals
	orange				Cr (V1)
	green				Cyanide

CONTACT: _____

SAMPLE ☒ YES
SPLIT ☐ NO

REMARKS: One container only

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY - REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION	
SURVEY NO. _____ SURVEY LEADER <u>Zirschky</u>	STORE NO. _____
DESCRIPTION <u>Effluent sample from treatment plant - water</u>	

GRAB SAMPLE DATA							
FLOW	TEMP. °C	PH	DO	FECAL COLI.	OIL & GREASE	OTHER	OTHER
<input type="checkbox"/> 00059 (GPM)	AIR 00020	WATER 00010					
<input type="checkbox"/> 00061 (CFS)							
COLLECTION DATE YR. <u>80</u> MO. <u>Nov</u> DAY <u>13</u> TIME <u>1045</u> SAMPLER NAME CODE <u>307</u> LAB NO. <u>AN21C4</u>							
COLLECTION DATE YR. _____ MO. _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____							
COLLECTION DATE YR. _____ MO. _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____							
COLLECTION DATE YR. _____ MO. _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO. _____							

COMPOSITE SAMPLE DATA			
BEGIN DATE: YR. _____ MO. _____ DAY _____ TIME _____			LAB NO. _____
END DATE: YR. _____ MO. _____ DAY _____ TIME _____			EQUIPMENT CODE _____
FLOW RATE _____	MGD _____	1000 L OF GAL DURING COMPOSITE PERIOD	SAMPLER NAME CODE _____

WATER CHEMISTRY				LAB NO. <u>AN21C4</u>
SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY	ANALYSES
			MOBILE REGION	
1 qt cubit	white		X	Metals
1 qt cubit	orange		X	pH, Cr(VI)
1 qt cubit	green		X	CN

CONTACT: _____	SAMPLE <input checked="" type="checkbox"/> YES SPLIT <input type="checkbox"/> NO
REMARKS: <u>3 containers</u>	

ENVIRONMENTAL PROTECTION AGENCY - REGION VII

WORK LEADER (PRINT)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET	
		DAY MONTH YEAR	of	
DESCRIPTION OF SHIPMENT		VOUCHER OR RECEIPT NO.		
_____ PIECE(S) CONSISTING OF _____ BOX(S) _____ ICE CHEST(S); OTHER _____				

CONTENTS OF SHIPMENT

[illegible]**PERSONNEL CUSTODY RECORD**

RELINQUISHED BY (SAMPLER) <i>John J. [illegible]</i>		RECEIVED BY <i>Ray Crockett</i>		DATE <i>4/17/80</i>	TIME <i>11:30</i>	REASON FOR CHANGE OF CUSTODY <i>and ysh</i>
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			
RELINQUISHED BY		RECEIVED BY		DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			
RELINQUISHED BY		RECEIVED BY		DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			
RELINQUISHED BY		RECEIVED BY		DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			
RELINQUISHED BY		RECEIVED BY		DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			
RELINQUISHED BY		RECEIVED BY		DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			
RELINQUISHED BY		RECEIVED BY		DATE	TIME	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED	<input type="checkbox"/> SEALED	<input type="checkbox"/> UNSEALED			

SITE SAFETY PLAN

JB

ITE: Collis manufacturing
LOCATION: Clinton, Iowa

DATE: 10-23-80
PREPARER: JOHN ZIRSCHKE
TDD NO.: F-7-8010-4

INVESTIGATIVE OBJECTIVE(S):

PROPOSED DATE OF INVESTIGATION: 11-5-80

BACKGROUND REVIEW: COMPLETE ☐ PRELIMINARY ☒
DOCUMENTATION/SUMMARY: OVERALL HAZARD SERIOUS ☐ MODERATE ☒ UNKNOWN ☐

SITE/ WASTE CHARACTERISTICS

WASTE TYPE(S): LIQUID ☒ SOLID ☐ SLUDGE ☒ GAS ☐
CHARACTERISTIC(S): CORROSIVE ☐ IGNITABLE ☐ RADIOACTIVE ☐ VOLATILE ☐
TOXIC ☒ REACTIVE ☐ UNKNOWN ☐ OTHER ☐
AGILITY DESCRIPTION: SIZE unknown BUILDINGS

TOPOGRAPHY

PRINCIPAL DISPOSAL METHOD (type and location)

Surface sludge impoundment

UNUSUAL FEATURES (dike integrity, power lines, terrain, etc.)

STATUS (open, closed, unknown)

ST (worker or non-worker injury; complaints from public; previous agency action):

Workers involved in removing sludge from the Collis manufacturing Co. sludge beds were possibly affected by cyanide or ammonia poisoning

HAZARD EVALUATION

The sludge at the plant contains both cyanide and chrome. As stated above, several persons may already have been poisoned by this waste. The workers, however, were in the sludge bed for 2 hours before being noticeably affected. A strong ammonia smell was noticed by the workers before they became ill. Level B protection is recommended as cyanide gas can be absorbed through the skin. The concentration and contact time with this gas will both be minimal, therefore, level A protection does not seem warranted. Cyanide Draeger tubes can be used to verify the concentration of HCN in the atmosphere; however, before sampling begins

Cyanide prevents oxygen transfer from blood to tissues causing suffocation

- I. PERIMETER ESTABLISHMENT: MAP/SKETCH ATTACHED ☒ SITE CONTROL ☐
 PUBLIC PERIMETER IDENTIFIED ☐ ZONE(S) OF CONTAMINATION IDENTIFIED ☐
 NOTES: _____

C areas of special safety concern identified

II. PERSONAL CLOTHING:

LEVEL OF PROTECTION: A ☐ B ☒ C ☐ D ☐
 MODIFICATIONS: _____

SURVEILLANCE EQUIPMENT AND MATERIALS: Dreger tubes will be used to check atmospheric HCN levels

III. DECONTAMINATION PROCEDURES:

HOT LINE LOCATION (initial): _____

COMMAND POST LOCATION (initial): _____

PDS STATIONS: 1. _____ 2. _____

3. _____ 4. _____ 5. _____

EQUIPMENT AND MATERIALS/SPECIAL FACILITIES: Equipment will be wrapped in plastic and disposed of with the sludge or returned to Kansas City for decontamination.

IV. SITE ENTRY PROCEDURES:

TEAM SIZE: E & E 3 EPA _____ STATE 1 OTHER _____

ENTRY BRIEFING (date) 40 11-4-80 prior to entering site

STATION DESIGNATION (name/responsibility): 1. JIM BUCHANAN/PTLD

2. JOHN ZIRSCHKE/sample leader 3. KEN SNELL/assist in sampling

4. Dave Hoambrecker/State of Iowa 5. _____

6. _____ 7. _____

WORK SCHEDULE/LIMITATIONS: none

NOTES: _____

V. EMERGENCY PRECAUTIONS:

ACUTE EXPOSURE SYMPTOMS

1. nausea
2. headache
3. dizziness
4. blackout or fainting
5. _____
6. OTHER

FIRST AID

remove from area
provide fresh air
seek medical attention
immediately

HOSPITALS/POISON CONTROL CENTERS (address, telephone no.)

1. to be determined upon arrival
2. _____
3. _____
4. _____
5. _____

EMERGENCY TRANSPORTATION SYSTEMS (fire, police, ambulance)

1. to be determined upon arrival
2. _____
3. _____

VI. EMERGENCY ROUTES

1. to be determined upon arrival
2. _____
3. _____
4. _____

EQUIPMENT CHECKOUT

SCBA ☒ CYLINDERS ☒
 APR ☐ CARTRIDGES ☐
 EXPLOSIMETER ☐
 O₂ INDICATOR ☐
 DRAEGER PUMP ☒ TUBES ☒ HCN
 RADIATION SURVEY METER ☐
 RADIATION CONTAMINATION METER ☒
Dosimeter

EYE WASH UNIT ☒
 FIRST AID KIT ☒
 DRINKING WATER SUPPLY ☐
 PERSONAL CLOTHING ☒
 DECONTAMINATION MATERIALS ☒

Receipt for Environmental Samples

From: Facility Name Collis Corporation
Address 2005 South 19th
City Elkton, Iowa
Permit Number _____
Responsible Official and Title Nello Anteburn

Sample numbers may change

Laboratory Sample No.	Types of Containers				Description of Samples
	Cubitainer	Glass Jar	DO Bottle	Bio Bottle	
	No. of Containers per Lab No.				
AN21C2		1 quart			sludge from sludge hopper
AN21C3		1 quart			sludge from sludge pit
AN21C4	4	1 gal		2	effluent sample

Acknowledgement

The undersigned acknowledge receipts for the above described samples pursuant to:

- ☒ Section 3007(a) of the Resource Conservation and Recovery Act, 42USC6927CAL
☐ Section 308(a)(b) of the Clean Water Act
☐ Section 117(a)(2) of the Clean Air Act
☐ Other (Specify) _____

Duplicate samples ~~were~~ were not requested by the responsible facility representative.
Duplicate samples ~~were~~ were not provided to the responsible facility representative.
or his designated agent.

Signature and Title of Responsible Facility Official

Nello Anteburn
Signature

Planting Super
Title

Date of Signing 11-13-80

Name and Title of Person Collecting Samples

John Qualky
Signature of Collector